



Forest Health Protection

Pacific Southwest Region



Date: April 26, 2009

File Code: 3420

To: Forest Supervisor, Los Padres National Forest
Subject: Forest Health Conditions for 2008 (FHP Report # SC-09-03)

Aerial surveys were conducted on the Los Padres National Forest (LPNF) during the week of August 18th. Two days were devoted to surveying insect and disease mortality across the three districts. Forest Health Protection (FHP) assisted Forest Health Monitoring (FHM) with detection and mapping efforts (Appendix 1; higher resolution aerial data in Google Earth format at <http://www.fs.fed.us/r5/spf/fhp/fhm/aerial/draft/index.shtml>). Ground surveys were conducted throughout the growing season before and after aerial flights to verify mortality mapped and to scout additional problems not detected during flights. The following report presents significant insect and disease problems surveyed in 2008 that may become forest health concerns for 2009.

California flatheaded borer

Increased mortality from the California flatheaded borer, *Melanophila californica*, was detected on the Los Padres NF. High levels of mortality seen in 2007 in Jeffrey pine, *Pinus jeffreyi*, around Mt. Pinos continued in 2008. Aerial surveys mapped Jeffrey pine mortality across 100 acres. The flatheaded wood borer killed 447 trees in 2008 (Fig. 1). Mortality from this species is usually not a significant threat because its populations do not build-up and aggressively attack healthy trees. Pines that succumbed to woodborer injury were mostly weakened by a combination of factors: high stem density in stands, below average precipitation in 2008, and western dwarf mistletoe (*Arceuthobium campylopodum*). If below average precipitation continues, mortality is expected to continue from the California flatheaded borer. *Tree thinning assisted by FHP funding in the Pine Mountain Club project area will help reduce mortality from this species in some areas.*



Figure 1. Jeffrey pine killed (background) by the California flatheaded borer on the Mt. Pinos RD.

European gypsy moth

In 2008, European gypsy moth, *Lymantria dispar*, adults were trapped in the area of Ojai, Ventura Co., for a second straight year. The European gypsy moth is an exotic insect that poses

a serious threat to forest health across the U.S. (Fig. 2). Gypsy moth caterpillars prefer to feed on oaks, but can survive on hundreds of tree and shrub species. Once gypsy moths reach outbreak numbers on oaks, they can defoliate trees and cause mortality after several years of extensive defoliation. Repeated defoliation can also increase trees' susceptibility to other stressors, which may also lead to mortality. Additional impacts to recreational use of infested areas include urticating hairs from caterpillars that may cause allergic reactions and frass from caterpillar feeding in trees that can be a nuisance.



Figure 2. Caterpillar of the European gypsy moth.

The current outbreak of European gypsy moth is believed to have been spread from the eastern U.S., where the moth was introduced in the late 1800's. The distribution is monitored and suppressed by the Slow the Spread Program. Since the infestation is currently restricted to private land, the California Department of Food and Agriculture (CDFA) is spearheading the trapping and eradication effort. CDFA and Ventura County of Agriculture have conducted surveys for gypsy moth egg masses and determined the current area of infestation. A quarantine area has been established and efforts will be made in the spring of 2009 to eradicate the population by spraying a naturally occurring bacteria, *Bacillus thuringiensis krustaki*, that is lethal to the feeding caterpillars. This treatment has been effectively used to suppress gypsy moth populations throughout the northeastern U.S. Eradication is the best management option for this insect because the population is still in an isolated area. Additional trapping for adult moths will monitor effectiveness of eradication efforts during the summer of 2009.

Native bark beetles

Pinyon Ips, *Ips confusus*, killed single-leaf pinyon pine, *P. monophylla*, along Highway 33 (Fig. 3). Areas of mortality are also prevalent along Lockwood Valley Rd in the Sespe Wilderness Area. Such beetle populations commonly subside after a few years and cause limited mortality. However, drought conditions and high stem densities likely explain the cause of the tree mortality.

Low levels of Coulter pine, *P. coulteri*, mortality were aerially mapped adjacent to Figueroa Mountain Rd. The cause of the mortality was mapped as western pine beetle, *D. brevicornis*, but still needs to be ground checked. The mortality is limited to 15 trees across 15 acres.



Figure 3. Singleleaf pinyon pine killed by pinyon Ips along the Maricopa Highway.

Sudden Oak Death

Mortality of tan oak, *Lithocarpus densiflorus*, and coast live oak, *Quercus agrifolia*, from the exotic Sudden Oak Death pathogen, *Phytophthora ramorum*, decreased from previous years most likely due to fewer precipitation events in the region that allow spread (Fig. 4). Tree mortality attributed to Sudden Oak Death covered 460 acres and killed an estimated 1,000 trees on the Monterey RD. Mortality mapped from aerial flights may also be lower due to the 2008 Basin fire. Once fire has impacted an area, tree mortality is not mapped for several years to limit misidentification of the cause for tree mortality.

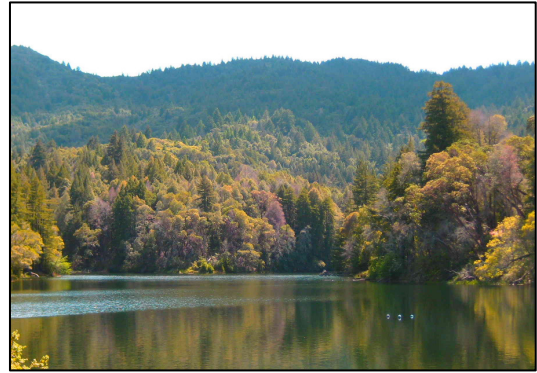


Figure 4. Mortality of tan oak from Sudden Oak Death.

Pine pitch canker

Infections and mortality from pitch canker, *Fusarium circinatum*, were observed on planted Monterey pine, *Pinus radiata*, at low elevations along coastal portions of Highway 1 in Monterey County. Sites where infection was noted are geographically located between indigenous Monterey pine populations at Año Nuevo and Cambria. These areas are also subject to summer fogs that are thought to explain both the natural distribution of Monterey pine and areas of high disease risk.

At Plaskett Creek Campground, older trees with multiple large cankers were found with branches intertwined with trees of similar stature that appeared to lack disease or had only a few small cankers. Research has suggested that such differences in disease severity can reflect differences in resistance to the pathogen.

Potential and emerging insect and disease problems

Goldspotted Oak Borer found on the Cleveland NF will be surveyed on the Los Padres NF

The goldspotted oak borer (GSOB), *Agrilus coxalis*, is a new non-native pest to oaks in southern California. GSOB has been killing oaks on the Cleveland NF and surrounding lands since 2002. Aerial surveys have estimated >17,000 oaks have died in the past six years from this beetle. Surveys will begin on the LPNF in 2009 as part of a larger study to determine the beetle's range in southern California.

New alder canker disease in LA basin

In 2008, a new disease of alders was found in the Los Angeles basin by UC Riverside Extension pathologist Deb Mathews in diseased Italian alders at a number of landscape plantings. The pathogen, *P. siskiyouensis*, causes bleeding trunk cankers on the alder host and had only been identified once before in California. Distribution is currently unknown. SoCal Forest Health Protection would welcome information to locate sites where alders are declining or dying on the LPNF to determine whether the disease has been established on the forest.

Conclusions

Mortality from California flatheaded borer on the Mt Pinos RD is the most significant mortality event occurring on the LPNF. If average rainfall is not received this year, these mortality pockets could continue where tree density is high. Current forest stand thinning co-funded by FHP in the Pine Mountain Club Project area will limit mortality from this insect species. Additional insect mortality occurring on the forest is currently not threatening high-use areas and may subside in the following year with average precipitation levels.

If there are additional areas of mortality or forest health concerns that require monitoring or assessment, please contact Forest Health Protection personnel.

Tom W. Coleman
Entomologist
Forest Health Protection
Southern California Shared Service Area
twcoleman@fs.fed.us or 909.382.2871

Paul Zambino
Pathologist
Forest Health Protection
Southern California Shared Service Area
pzambino@fs.fed.us or 909.382.2727

Zachary Heath
Aerial Survey Program Manager
Forest Health Monitoring
McClellan, CA
zheath@fs.fed.us or 530.759.1751

Andi Koonce
Program Leader
Forest Health Protection
Southern California Shared Service Area
akoonce@fs.fed.us or 909.382.2673

Appendix 1. Tree mortality that was aerially mapped on the Los Padres National Forest in 2008.

